

INTELLIGENT DATA STORAGE MANAGER

Abstract

The intelligent data storage manager functions to combine the non-homogeneous physical devices contained in a data storage subsystem to create a logical device with new and unique quality of service characteristics that satisfy the criteria for the policies appropriate for the present data object. In particular, if there is presently no logical device that is appropriate for use in storing the present data object, the intelligent data storage manager defines a new logical device using existing physical and/or logical device definitions as component building blocks to provide the appropriate characteristics to satisfy the policy requirements. The intelligent data storage manager uses weighted values that are assigned to each of the presently defined logical devices to produce a best fit solution to the requested policies in an n-dimensional best fit matching algorithm. The resulting logical device definition is then implemented by dynamically interconnecting the logical devices that were used as the components of the newly defined logical device to store the data object.